Curriculum Vitae of Steve Pride

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ACADEMIC/PROFESSIONAL PREPARATION:

- *University of California at Berkeley*, Geophysics, B.A. 1985.
- *Texas A&M University*, Geophysics, Ph.D. 1991.
- *Massachussetts Institute of Technology*, Geophysics, post-doc 1991-1993.

ACADEMIC/PROFESSIONAL APPOINTMENTS:

- 2004 – present: Adjunct professor of Geophysics, Department of Earth and Planetary Sciences, *University of California at Berkeley*, Berkeley, CA.
- 2003 – 2005: Research professor of Geophysics, *Stanford University*, Stanford, CA.
- 2003 – present: Staff Scientist, *Lawrence Berkeley National Laboratory*, Berkeley, CA.
- 2000 – 2001: Visiting professor of Geophysics, *Stanford University*, Stanford, CA.
- 1997 – 2003: Full professor of Geophysics, *University of Rennes*, Rennes, France.
- 1993 – 1997: Associate professor of Geophysics (Maitre de Conference), *Institut de Physique du Globe de Paris*, Paris, France.

CURRENT RESEARCH INTERESTS:

Seismic stimulation to enhance production of non-aqueous phase liquids; theory of elasticity and poroelasticity with heterogeneity at all scales; mechanisms of seismic attenuation and dispersion; electrokinetic coupling phenomena; two-phase immiscible flow in porous media; physics of brittle fracture and stress-induced interacting damage.

RECENT PUBLICATIONS (2002 to present):

Masson, Y.J. and S.R. Pride (2010) Finite-difference modeling of Biot's poroelastic equations across all frequencies. *Geophysics* (in press).

Chen, J., Hubbard, S.S., Williams, K.H., Pride, S.R., Li, L. Steefel, C. and L. Slater (2009) A state-space Baysian framework for estimating biogeochemical transformations using time-lapse geophysical data. *Water Resources Research*, **45**, W08420.

Pride, S.R. and J.G. Berryman (2009) Goddard rattler-jamming mechanism for quantifying pressure dependence of elastic moduli of grain packs. *Acta Mechanica*, **205**, 185-196.

Pride, S.R., Flekkoy, E.G. and O. Aursjo (2009) Mechanisms of seismic EOR. *World Oil*, **230**, 49-52.

Pride, S.R., Flekkoy, E.G. and O. Aursjo (2008) Seismic stimulation for enhanced oil recovery. *Geophysic,* **73,** P8-P21.

Masson, Y.J. and S.R. Pride (2007) Poroelastic finite-difference modeling of seismic attenuation and dispersion due to mesoscopic-scale heterogeneity. *J. Geophys. Res.*, **112,** B03204.

Haines, S.S., Pride, S.R., and S.L. Klemperer (2007) Seismoelectric imaging of shallow targets. *Geophysics,* **72**, G9 – G20.

Haines, S.S. and S.R. Pride (2006) Seismoelectric numerical modeling on a grid. *Geophysics,* **71**, N57 – N65.

Pride, S.R. and Y.J. Masson (2006) Acoustic attenuation in self-affine porous structures. *Physical Review Letters*, 97, 184301.
Masson, Y.J., Pride, S.R., and K.T. Nihei (2006) Finite difference modeling of Biot's poroelastic equations at seismic frequencies. *Journal of Geophysical Research*, **111**, B10305.
Pride, S.R. and S. Garambois (2005) The seismoelectric wave theory of Frenkel. *Journal of Engineering Mechanics*, **131**, 898-907.
Berryman, J.G. and S.R. Pride (2005) Dispersion of waves in porous cylinders with patchy saturation. Part I. Formulation and torsional waves. *Journal of the Acoustical Society of America*, **117**, 1785 – 1795.
Toussaint, R. and S.R. Pride (2005) Interacting damage models mapped onto Ising and percolation models. *Physical Review E*, **71**, 046127.
Pride, S.R. (2005) Relationships between seismic and hydrological properties. Chapter 9 of *Hydrogeophysics*, edited by Y. Rubin and S. Hubbard, Kluwer Academic Publishers.
Pride, S.R., Moreau, F. and P. Gavrilenko (2004) Mechanical and electrical response due to fluid-pressure equilibration following an earthquake. *Journal of Geophysical Research*, **109**, B03302.
Pride, S.R., Berryman, J.G. and J.M. Harris (2004) Seismic attenuation due to wave-induced flow. *Journal of Geophysical Research*, **109**, B01201.
Pride, S,R. and J.G. Berryman (2003) Linear dynamics of double-porosity dual-permeability materials I. Governing equations and acoustic attenuation. *Physical Review E*, **68**, 036603.
Pride, S,R. and J.G. Berryman (2003) Linear dynamics of double-porosity dual-permeability materials II. Fluid transport equations. *Physical Review E*, **68**, 036604.
Pride, S.R. et al. (2003) Permeability dependence of seismic amplitudes, *The Leading Edge*, **22**, 518-525.
Toussaint, R. and S.R. Pride (2002) Fracture of disordered solids in compression as critical phenomenon: I. Statistical mechanics formalism. *Physical Review E*, **66**, 036136.
Toussaint, R. and S.R.Pride (2002) Fracture of disordered solids in compression as a critical phenomenon: II. Model Hamiltonian for a population of interacting cracks. *Physical Review E*, **66**, 036137.
Toussaint, R. and S.R. Pride (2002) Fracture of disordered solids in compression as a critical phenomenon: III. Analysis of the localization transition. *Physical Review E*, **66**, 036138.
Berryman, J.G., Pride, S.R. and H. F. Wang (2002) A differential scheme for elastic properties of rocks with dry or saturated cracks. Geophysical Journal International, **150**, 1-15.
Pride, S.R. and R. Toussaint (2002) Thermodynamics of fiber bundles. *Physica A*, **312**, 159-171.
Pride, S.R. and S. Garambois (2002) The role of Biot slow waves in electroseismic wave phenomena. *Journal of the Acoustical Society of America*, **111**, 697-706.
Berryman, J.G. and S.R. Pride (2002) Models for computing geomechanical constants of double-porosity materials from the constituent's properties. *Journal of Geophysical Research*, **107**, B000108.

Synergistic activities:

Teaching the undergraduate class "Mathematical Methods for Geophysicists" at UC Berkeley.

Thesis advisor of UC Berkeley doctoral candidate Yder Masson.

Supervisor of two LBNL staff scientists.